CLAIMS

1. A composition useful for conditioning sludge obtained by mixing at least one invert emulsion containing at least one cationic polyelectrolyte with an invert emulsion or an aqueous solution containing at least one mineral cation with a charge of greater than or equal to two.

2. A composition useful for conditioning sludge characterised in that it is in the form of an emulsion comprising in aqueous phase or phases and separately at least one mineral cation of a charge of greater than or equal to 2 and a cationic polyelectrolyte.

3. A composition as set forth in claim 1 or claim 2 characterised in that it is in the form of an invert water-in-oil emulsion in which said mineral cation and said cationic polyelectrolyte are distributed in separate water droplets in the oily phase.

4. A composition as set forth in claim 1 or claim 2 characterised in that it is in the form of a double water/oil/water emulsion in which the mineral cation is present at the level of the continuous aqueous phase and the cationic polyelectrolyte is distributed at least in part in water droplets constituting the second aqueous phase which is dispersed in the oily phase.

5. A composition as set forth in one of the preceding claims characterised in that the mineral cation is selected from Mg^{2+}, La^{3+}, Fe^{3+}, Al^{3+}, Zr^{4+} and their polymerised forms when they exist.

6. A composition as set forth in claim 5 characterised in that said mineral cation is Al^{3+} or one of its polymerised forms.

7. A composition as set forth in one of the preceding claims characterised in that the mineral cation is in the form of a water-soluble salt selected preferably from chlorides, nitrates, sulfates and acetates.

8. A composition as set forth in one of the preceding claims characterised in that the mineral cation is an aluminum chloride or one of its polymerised forms.

9. A composition as set forth in one of the preceding claims characterised in that the mineral cation is used in a proportion of between 0.05 and 2 moles, in particular between 0.49 and 1.8 moles per kg of said composition.

10. A composition as set forth in one of the preceding claims characterised in that the cationic polyelectrolyte is of a molecular weight of higher than 1.10^6.

11. A composition as set forth in one of the preceding claims characterised in that the cationic polyelectrolyte is selected from polyacrylamides, oxides of polyethylenes, polyvinylpyrrolidones, and cationic polymers of natural origin.

12. A composition as set forth in one of the preceding claims characterised in that said cationic polyelectrolyte is a polyacrylamide having between 0.1% and 15% of cationic charge.

13. A composition as set forth in one of the preceding claims characterised in that the cationic polyelectrolyte is selected from copolymers of polyacrylamide with cationic monomers or polyacrylamides modified in accordance with the Mannich reaction.

14. A composition as set forth in one of the preceding claims characterised in that the polyelectrolyte is a cationic polyacrylamide copolymer selected from the copolymers acrylamides/halide, preferably chloride, of diallyldialkylammonium, the copolymers

diaminoalkylmethacrylate/acrylamides and the copolymers dialkylaminoalkylmethacrylates/acrylamides.

15. A composition as set forth in one of the preceding claims characterised in that the cationic polyelectrolyte is used in a proportion of at most 10% and preferably between 0.3% and 8% by weight of said composition.

16. A composition as set forth in one of the preceding claims characterised in that the mineral cation is a polyaluminum chloride and the cationic polyelectrolyte is a copolymer acrylamide/diallyldimethylammonium chloride of a molecular weight of the order of 3.10^{6-}.

17. A composition as set forth in one of the preceding claims characterised in that the mineral cation and the polyelectrolyte are used in such a way that the mineral cation/cationic polyelectrolyte molar ratio is between 1.10^2 and 8.10^6, in particular between 1.10^3 and 8.10^6.

18. A composition as set forth in claim 17 characterised in that when the mineral cation is polyaluminum chloride and the polyelectrolyte, a copolymer acrylamide/diallyldimethylammonium chloride, the mineral cation/cationic polyelectrolyte weight ratio is between 0.1 and 15 and more particularly between 0.1 and 10.

19. Use of a composition as set forth in one of claims 1 through 18 for the treatment of aqueous media, in particular waste, urban or industrial water.

20. Use of a composition as set forth in one of claims 1 through 18 for the treatment of biological sludges from the purification of dirty or waste water, for the purposes of dehydration thereof.